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LISTS OF SPECIES

Myxomycetes, State of Piauí, Northeast Brazil

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Abstract
There is no record in the literature about collections of Myxomycetes in the State of Piauí before 1997. This check-list intends to cover all currently reported taxa from savanna (*cerrado*), deciduous mixed forest, riverine forest, and urban zone environments of Piauí between 1998-2005. It contains a classification of the genera in order of families, followed by a list of species and lower taxa set out in alphabetical order within each genus. The three subclasses and six orders of the Class Myxomycetes are represented by eight families, 20 genera, 50 species, and two varieties. Liceaceae, represented by *Licea biforis*, is reported for the first time for the State of Piauí.

Introduction

There is no record in the literature about collections of Myxomycetes in the State of Piauí before 1997. Mobin and Cavalcanti (1998) published their first paper of Myxomycetes from that State with a citation of 25 species collected in the Sete Cidades National Park, on *Mauritia flexuosa* L.f., the buriti palm. In the next year, Mobin and Cavalcanti (1999a;b) published two papers, recording 15 species of Physarales and 13 species of Stemonitales, respectively, that occur in that park. Two years later, the same authors reported the occurrence of 11 Trichiaceae species and described the new taxon *Hemitrichia serpula* var. *piauiensis* (Mobin and Cavalcanti 2001; Cavalcanti and Mobin, 2001).

The most recent paper is that of Ponte et al. (2003), which referenced 101 myxomycete specimens from Teresina State Zoobotanic Park, in the municipality of Teresina. The vegetation of that environmental preservation area offers substrates potentially favorable to the development of Myxomycetes and 19 species were recorded, distributed in seven families, and reported for the first time in the Mid-Parnaiba microregion, in the northwest of the State. The Enteridiaceae family, with the genus *Lycogala*, represented by *L. exiguum* Morgan, and the species *Cribraria cancellata* (Batsch.) Nann.-Bremek., *Craterium aureum* (Schum.) Rost., *Physarum bogoriense* Racib., *P. melleum* (Berk. & Br.) Massee, and *P. nucleatum* Rex, were reported for the first time from Piauí.

With the results of these studies, the number of species recorded for Piauí increases to a total of 50 and thus, all the subclasses and orders are known to occur in this State.

The purpose of this study is (i) to provide an updated check-list of the Myxomycetes species recorded from the State of Piauí and (ii) to present the first record of the Liceaceae family, with the species *Licea biforis* Morgan, collected on bark of living trees in the urban zone of the municipality of Teresina.

Material and Methods

Piauí is one of nine states of the Northeast Region of Brazil and occupies an area of approximately 251,529.186 km² (Figure 1). The vegetation types - semideciduous forest, mixed forest, riverine forest, savanna (*cerrado*), deciduous dry forest (*caatinga*), and the transition-formations - of this State were described by Emperaire (1985).

The species of this check-list were mainly collected in two conservation areas, situated in different micro-regions of Piauí State (Figure 1), briefly described below.

Sete Cidades National Park (municipality of Piripiri) - Situated in the micro-regions of Low

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Parnaíba and the Coastal Zone of the State of Piauí, the park covers an area of 6,221.48 ha (4°05'– 4°15'S and 41°30'– 41°45'W), with a plant community represented by riverine forest, savanna, small areas of wooded savanna and flood-plains, and also deciduous dry forest (*caatinga*), and deciduous forest (Cavalcanti and Mobin 2004).

Teresina Zoobotanic State Park (municipality of Teresina) - This state park (05° 05'12''S and 42°48'48''W, 72 m alt.), located in Mid-Parnaiba region, in the northwest of the State, is an environmental preservation area of deciduous mixed forest with "*cocais*" forest areas, comprising 160 ha, located along the right margin of the Poty River (Lima 1996).

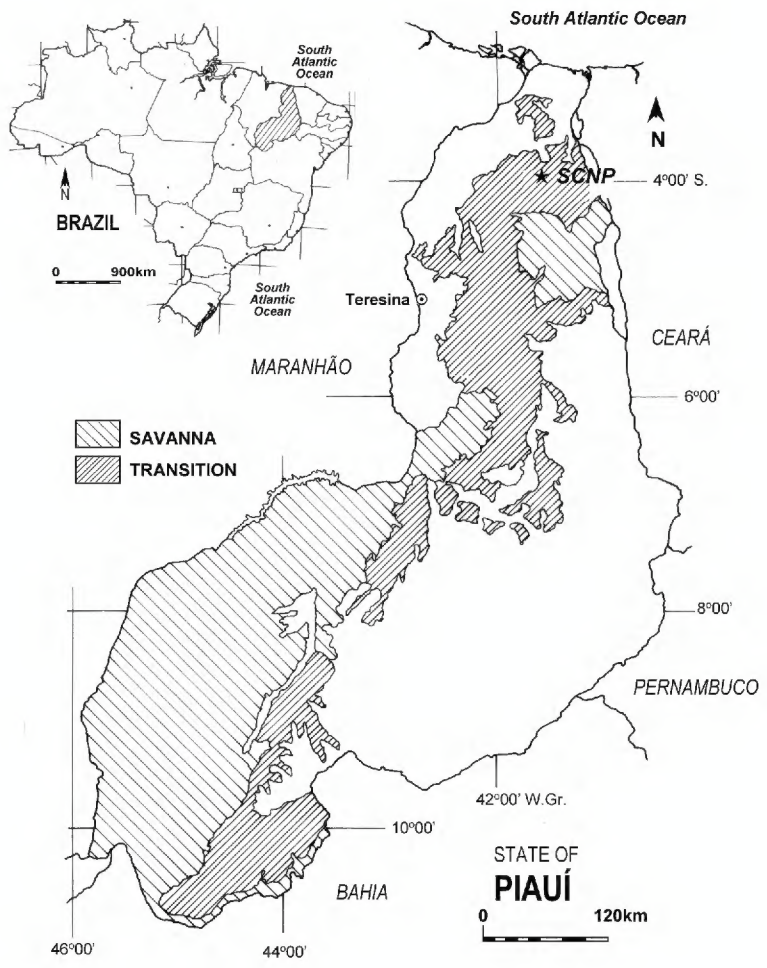


Figure 1. Map of Brazil showing the State of Piauí, Northeast Region, and localization of the areas mentioned in the text on the distribution of Myxomycetes species in this State (SCNP = Sete Cidades National Park, Piripiri municipality).

The check-list contains a classification of the genera in order of families, followed by a list of species and lower taxa set out in alphabetical order within each genus. The classification presented is based on Martin and Alexopoulos (1969) and Martin et al. (1983). Taxonomic nomenclature follows Lado (2001).

Results and discussion

Myxomycetes species are found in the State of Piauí during both dry and rainy seasons but the highest abundance and diversity of taxa have been observed during the rainy period (Cavalcanti and Mobin 2004). The most common species are *Arcyria cinerea* (Bull.) Pers., *A. denudata* (L.) Wettst., *Hemitrichia calyculata* (Speg.) M.L. Farr, *H. serpula* (Scop.) Rostaf. *ex* Lister, *Metatrichia vesparia* (Batsch) Nann.-Bremek *ex* G. W. Martin & Alexop., *Physarum nucleatum* Pers., and *Stemonitis fusca* Roth.

The Subclass Ceratiomyxomycetidae only comprises the Order Ceratiomyxales, with a single family and genus (*Ceratiomyxa*), which includes four species (Lado 2001). Cosmopolitan and widely distributed in all regions of Brazil, *Ceratiomyxa fruticulosa* is cited by Mobin and Cavalcanti (2000) as associated with *Copernicia prunifera* (Miller) H. E. Moore (wax palm), in an area of savanna in the municipality of Piripiri and by Ponte et al. (2003) for the municipality of Teresina.

The Subclass Myxogastromycetidae comprises the orders Echinosteliales, Liceales, Trichiales, and Physarales, with a total of ten families, 42 genera, and 671 species (Lado 2001). Thirty-seven species, belonging to the families Clastodermataceae (*Clastoderma*), Enteridiaceae (*Lycogala*), Cribrariaceae (*Cribraria*), Liceaceae (*Licea*), Trichiaceae (*Arcyria*, *Hemitrichia*, *Metatrichia*, *Perichaena,Trichia*), Didymiaceae (*Didymium*, *Diachea*) and Physaraceae (*Craterium*, *Physarella, Physarum*) are known from the Low Parnaíba and Mid-Parnaíba regions of the State of Piauí (Table 1). The *Trichia* exsiccates, deposited at the UFP herbarium and identified by Mobin and Cavalcanti (2001) as *T. favoginea* (Batsch) Pers. were redetermined as *Trichia affinis* de Bary.

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The Subclass Stemonitomycetidae only comprises one order and one family, with 16 genera and 202 species (Lado 2001). Thirteen species of Stemonitaceae, belonging to the genera *Collaria*, *Comatricha*, *Macbrideola*, *Stemonitis*, and *Stemonitopsis* (Table 1), with records from the municipalities of Piripiri and Teresina, occur in secondary forest, riverine forest, deciduous mixed forest, and in savanna vegetation.

During the period 1998-2005, 50 species were recorded for the State of Piauí, distributed in three subclasses, five orders, nine families, and 19 genera (Table 1). Compared to the inventory presented by Cavalcanti (2002) for the Northeast Region, out of the 168 species reported ca. 30% have been recorded from the studied areas in the State of Piauí.

Table 1. Myxomycetes species recorded in the State of Piauí, from 1998 to 2005.

Sub-class/ Order/ Family	Species
CERATIOMYXOMYCETIDAE	
CERATIOMYXALES	
Ceratiomyxaceae	*Ceratiomyxa fruticulosa* (O. F. Mull.) T. Macbr.
MYXOGASTROMYCETIDAE	
ECHINOSTELIALES	
Clastodermataceae	*Clastoderma debaryanum* A. Blytt
LICEALES	
Cribrariaceae	*Cribraria cancellata* (Batsch.) Nann.-Bremek.
	Cribraria microcarpa (Schrad.) Pers.
	Cribraria mirabilis (Rostaf.) Massee
	Cribraria violacea Rex
Enteridiaceae	*Lycogala exiguum* Morgan
Liceaceae	*Licea biforis* Morgan (**first reference**)
TRICHIALES	
Trichiaceae	*Arcyria cinerea* (Bull.) Pers.
	Arcyria denudata (L.) Wettst.
	Arcyria incarnata (Pers. Ex J. F. Gmel.) Pers.
	Arcyria insignis (Kalchbr.) Cooke
	Arcyria minuta Buchet
	Arcyria obvellata (Oeder.) Onsberg
	Hemitrichia calyculata (Speg.) M. L. Farr
	Hemitrichia serpula Scop.) Rostaf. ex Lister
	Hemitrichia serpula var. *piauiensis* Cavalcanti & Mobin
	Metatrichia vesparia (Batsch) Nann.-Bremek.
	Perichaena depressa Libert
	Trichia affinis de Bary
PHYSARALES	
Didymiaceae	*Diachea bulbillosa* (Berk. & Broome) Lister
	Diachea leucopodia (Bull.) Rostaf.
	Didymium bahiensis Gottsb.var. *microsporum* Hochg., Gottsb. & Nann.-Bremek.
	Didymium clavus (Alb. & Schwein.) Rabenh.
	Didymium nigripes (Link) Fr.
Physaraceae	*Craterium aureum* (Schumach.) Rostaf.
	Craterium leucocephalum (Pers. ex J.F.Gmel.) Ditmar
	Craterium paraguayense (Speg.)Lister

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	Physarella oblonga (Berk. & M.A. Curt.) Morgan
	Physarum album (Bull.) Chevall.
	Physarum bogoriense Racib.
	Physarum flavicomum Berk.
	Physarum galbeum Wing.
	Physarum melleum (Berk. & Broome) Massee
	Physarum nucleatum Rex
	Physarum pusillum (Berk. & M. A. Curtis) G. Lister
	Physarum stellatum (Massee) G. W. Martin
	Physarum viride (Bull.) Pers
STEMONITOMYCETIDAE	
STEMONITALES	
Stemonitaceae	*Collaria elegans* (Racib.) Dhillon & Nann.-Bremek. ex Ing
	Comatricha laxa Rostaf.
	Comatricha longa Peck.
	Comatricha meandrispora Castilo, G. Moreno & Illana
	Comatricha pulchella (C. Bab. ex Berk.) Rostaf.
	Macbrideola martinii (Alexop. & Beneke) Alexop.
	Stemonitopsis typhina (F.H.Wigg.) Nann.-Bremek.
	Stemonitis flavogenita Jahn
	Stemonitis fusca Roth
	Stemonitis pallida Wing.
	Stemonitis smithii T. Macbr.
	Stemonitis splendens Rostaf.
	Stemonitis virginiensis Rex

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